
SCIENCE

0846/02

Paper 2

October 2018

MARK SCHEME

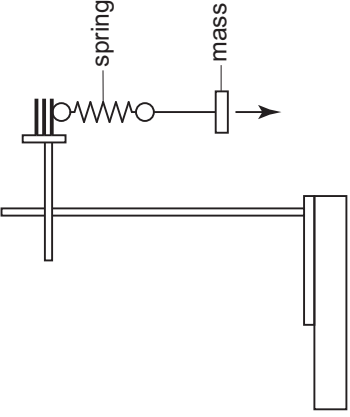
Maximum Mark: 50

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Markers were instructed to award marks. It does not indicate the details of the discussions that took place at an Markers' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the End of Series Report. Cambridge will not enter into discussions about these mark schemes.



This document consists of **12** printed pages.

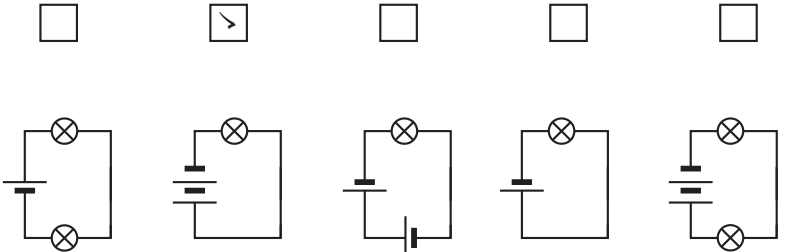
Question	Answer	Marks	Further Information
1(a)	kilograms(s)/gram(s)	1	Accept kg/g
1(b)		1	Accept any downwards pointing arrow(s) on the diagram or in the answer space any incorrect arrows = 0 marks
Question	Answer	Marks	Further Information
2(a)	Sugar dissolves in water because water is a solvent . Chalk does not dissolve because it is insoluble .	2	each correct answer = 1 mark
2(b)	blue	1	Ignore light / dark
2(c)	salt	1	Ignore crystals

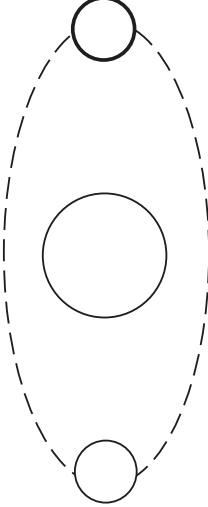
Question	Answer	Marks	Further Information
3(a)	<p>the colour of the litter</p> <p>the mass of the litter</p> <p>the shape of the litter</p> <p>the type of litter</p> <p>where she found the litter</p>	1	more than one answer circled = 0 marks
3(b)	(idea of) less litter / the bins contain litter / students are throwing litter into the bins	1	Accept other words for litter e.g. garbage / trash
3(c)	<p>The total for papers is 24.</p> <p>The total for plastic bottles is 17.</p> <p>The lowest number is for straws.</p>	1	all three correct for 1 mark
3(d)	(idea that) they are different sizes	1	Accept 12 for straws Accept different masses or weights

Question	Answer	Marks	Further Information
4	<p>material</p> <p>property</p> <div> </div>	5	<p>each correct match = 1 mark</p> <p>two or more lines from a material = 0 for this material</p>

Question	Answer	Marks	Further Information
5(a)	(sun →) rose → aphid → beetle → bird	2	all three arrows in correct direction = 1 mark arrows must have arrow heads pointing in the correct direction (from rose to bird) all organisms in correct order = 1 mark
5(b)	Beetle	1	more than one organism e.g. beetle and aphid = 0 marks

Question	Answer	Marks	Further Information
6(a)	0 1 2 3 4	1	more than one circled = 0 marks
6(b)	 or 	1	one line must be longer than the other but they can be the any thickness
6(c)	(Predict what will happen if the object is a good conductor) lamp will be bright / lamp will light up / lamp will glow. (Predict what will happen if the object is a bad conductor) will be dim / lamp will not light up / lamp will not glow.	1	both correct = 1 mark Accept light or bulb for lamp Accept the lamp turns on Accept lamp or bulb will not work / the lamp does not turn on

6(d)	 <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1	more than one box ticked = 0 marks
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Question	Answer	Marks	Further Information				
7(a)	<table border="1"> <tr> <td>day</td> <td>night</td> </tr> <tr> <td>W Z</td> <td>X Y</td> </tr> </table>	day	night	W Z	X Y	1	all correct = 1 mark
day	night						
W Z	X Y						
7(b)		1	part of the Earth must be within the guidelines and on the orbit (dotted line)				

Question	Answer	Marks	Further Information
8(a)	thermometer	1	Accept temperature probe
8(b)	increases (idea of then) stays constant / stays the same	2	each correct answer = 1 mark Accept gets hotter / becomes hot / heats up

Question	Answer	Marks	Further Information
9	reproduction	1	more than one process = 0 marks

Question	Answer	Marks	Further Information
10(a)	<p>D B A C</p>	2	<p>four in correct boxes = 2 marks two or three in correct boxes = 1 mark one in correct box = 0 marks</p>
10(b)	<p>All of the materials allow light to pass through. <input type="checkbox"/></p> <p>None of the materials allow light to pass through. <input type="checkbox"/></p> <p>One material is opaque. <input checked="" type="checkbox"/></p> <p>Three materials let most light through. <input checked="" type="checkbox"/></p> <p>Two materials are opaque. <input type="checkbox"/></p> <p>Two materials let most light through. <input type="checkbox"/></p>	2	<p>each correct answer = 1 mark two ticks = 2 marks one tick = 1 mark three ticks 2 correct = 1 mark three ticks 1 correct = 0 marks</p>

Question	Answer	Marks	Further Information
11(a)	pollen is collected from the male organ / is collected from the stamen / is collected from the anther	2	only award pollen mark if the context is correct e.g. pollen is made / pollen is collected / pollen is taken Accept examples when an insect is involved in moving the pollen e.g. pollen is collected by the insect = 2 marks
11(b)	pollination / transfer of pollen (to female part or flower)	1	Accept pollen falls (off the insect or onto the stigma) / pollen is collected by the stigma

Question	Answer	Marks	Further Information
12(a)	The water in the beaker vibrates / moves / rises / increases / splashes / bubbles / shakes . This is because the tuning fork is vibrating / shaking / moving .	2	each correct answer = 1 mark Accept other words that means there is movement
12(b)	vibrate the tuning fork harder	1	Accept hit the tuning fork harder / hit the tuning fork more (than once) / add another tuning fork

Question	Answer	Marks	Further Information
13(a)	C and D	1	
13(b)	E	1	
13(c)	C	1	
13(d)	A	1	

Question	Answer	Marks	Further Information
14	light /sunlight / Sun is reflected (by the water)	2	light = 1 mark reflected = 1 mark
Question	Answer	Marks	Further Information
15(a)	measuring beaker measuring cylinder measuring jug measuring scales measuring spoon	1	more than one answer circled = 0 marks
15(b)	6 (cm) 10 (cm) 4 (cm) increases / goes up / is more / taller / grows	2	four correct = 2 marks two or three correct = 1 mark one correct = 0 marks Accept error carried forward from previous two numbers i.e. the difference between these numbers
15(c)	repeat / do the investigation with more seeds	1	Accept find the average / use more than one

Question	Answer	Marks	Further Information
16	<p>any two from</p> <p>are attached to bones / to pull bones / to move the bones</p> <p>work in pairs / A and B work together / work together</p> <p>contract / contracting</p> <p>relax / relaxing</p>	2	<p>each correct statement = 1 mark</p> <p>Accept by the bones moving</p> <p>Accept antagonistic</p>